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### ASX/Media Announcement

## Upgraded JORC Resource Estimate – Kanyika Niobium Project

Globe Metals & Mining is delighted to announce an updated JORC resource estimate at its 100% owned Kanyika Niobium Project in central Malawi.

# <u>Highlights</u>

- 70% increase in high-grade resources (Indicated and Inferred) to 24 Mt @ 3,800ppm Nb<sub>2</sub>O<sub>5</sub> (up from 14.1 Mt @ 3,700ppm Nb<sub>2</sub>O<sub>5</sub>)
- High-grade material available for at least the first 10 years of mining
- 55.3 Mt total resources (Indicated and Inferred) average grade increase to 3,000ppm Nb<sub>2</sub>O<sub>5</sub> (from 2,600ppm Nb<sub>2</sub>O<sub>5</sub>)
- 13.2 Mt @ 3,600ppm Nb<sub>2</sub>O<sub>5</sub> Indicated resource

	55.3 Mt Indica (1,50	ated & Inferred Doppm Nb₂O₅cut-off,	Resource	(incl.) 24.0 Mt Indicated & Inferred High-Grade Component (3,000ppm Nb <sub>2</sub> O <sub>5</sub> cut-off)					
	Metal <u>(Mlbs)</u>	Metal <u>(tonnes)</u>	Grade <u>(ppm)</u>	Metal <u>(Mlbs)</u>	Metal <u>(tonnes)</u>	Grade <u>(ppm)</u>			
Nb <sub>2</sub> O <sub>5</sub>	366	165,980	3,000	201	91,170	3,800			
U <sub>3</sub> O <sub>8</sub>	10	4,430	80	5	2,400	100			
Ta₂O₅	17	7,750	140	9	4,080	174			
ZrSiO₄	610	276,640	5,000	296	134,350	5,600			

### Summary

The Company's main focus at Kanyika during 2008 was on infill drilling, to upgrade a significant portion of the near surface, high-grade mineralisation to the JORC Indicated Resource category. A secondary objective was to test for extensions to the northern high-grade Milenje Zone. The Company was successful in both respects.

The Company's Managing Director, Mr. Mark Sumich said, "The large increase in the high-grade resource component at Kanyika is a fantastic result that has far exceeded the Company's expectations. In essence, this means that the Company will be able to mine high-grade material for at least the first 10 years of operations, which will have very positive ramifications on the overall financial model."

Mr. Sumich added, "The 13.2 Mt Indicated resource will significantly improve the market's confidence in the Kanyika Niobium Deposit."

Mr. Sumich also added, "The Company has to date defined overall resources for approximately 20 years of operation at the production rate adopted in the Scoping Study last year. However, it is also important to note that the resource is open in all directions, and a further 1.5km of known, outcropping, mineralised strike length is yet to be drilled out. The Company expects to be able to significantly increase the overall resource base with future drill programs."





### Commentary

The resource area covers 2.3km strike length of mineralisation that was drilled over the 2007 and 2008 programs, in 176 holes for 15,899m. A further ~1.5km of known, outcropping mineralised alkalic granitoid, south of the resource area, remains to be drilled out in future.

A complete listing of the all drill results was released to ASX by the Company on 6 April 2009.

Important points to note:

- Increase in High-Grade Material The total high-grade resource component (Indicated and Inferred), being material in excess of 3,000ppm Nb<sub>2</sub>O<sub>5</sub>, has increased 70% to 24.0 Mt @ 3,800ppm Nb<sub>2</sub>O<sub>5</sub> from 14.1 Mt @ 3,700ppm Nb<sub>2</sub>O<sub>5</sub> (the initial Inferred JORC resource was announced to the market on 31 March 2008).
- 2. **Increase in Overall Grade and Contained Metal** Overall grades and contained metal have increased significantly: the average grade for the total resource has increased to 3,000ppm Nb<sub>2</sub>O<sub>5</sub> from 2,600ppm Nb<sub>2</sub>O<sub>5</sub>, resulting in a 14% increase in contained metal.
- 3. **Resource Upgrade** A substantial part of the resource previously classified as Inferred has been upgraded to Indicated.

	<b>13.2 Mt</b> (1,50	Indicated Reso	urce	(incl.) 8.5 Mt <u>Indicated</u> High-Grade Component (3,000ppm Nb <sub>2</sub> O₅cut-off)					
	Metal	Metal	Grade	Metal	Metal	Grade			
	<u>(Mlbs)</u>	<u>(tonnes)</u>	<u>(ppm)</u>	<u>(Mlbs)</u>	(tonnes)	<u>(ppm)</u>			
Nb <sub>2</sub> O <sub>5</sub>	105	48,590	3,600	79	35,7300	4,200			
$U_3O_8$	3	1,320	100	2	940	110			
Ta₂O₅	5	2,120	160	4	1,620	190			
ZrSiO <sub>4</sub>	146	66,090	5,000	105	47,650	5,600			

4. High-Grade Inferred Resource – Significant additional, mostly high-grade tonnage has been added by extensional drilling in the Milenje Zone in the Northern Area, both along strike and at depth. That is, in addition to the 8.5 Mt of high-grade material (defined as >3,000ppm Nb<sub>2</sub>O<sub>5</sub>) within the 13.2 Mt Indicated resource, there is a further 15.5 Mt of high-grade material within the new Inferred resource, which will be upgraded through additional drilling in due course.

	<b>42.1 Mi</b> (1,5	t <u>Inferred</u> Resou 00ppm Nb₂O₅ cut-off	Irce	(incl.) 15.5 Mt <u>Inferred</u> High-Grade Component (3,000ppm Nb <sub>2</sub> O <sub>5</sub> cut-off)					
	Metal	Metal	Grade	Metal	Metal	Grade			
	<u>(Mlbs)</u>	(tonnes)	<u>(ppm)</u>	<u>(Mlbs)</u>	(tonnes)	<u>(ppm)</u>			
Nb <sub>2</sub> O <sub>5</sub>	259	117,900	2,800	121	55,740	3,600			
U <sub>3</sub> O <sub>8</sub>	7	3,370	80	3	1,390	90			
Ta₂O₅	12	5,470	130	6	2,630	170			
ZrSiO <sub>4</sub>	464	210,540	5,000	191	86,710	5,600			

- 5. **Central Area** (Pangano, Uzambazi, Etandweni and Chikoka Zones) Resource tonnage has been decreased in the Central Area due to an increased drill density, better geological understanding and tighter modelling of the mineralised envelopes. The grades in the Central Area however, have been significantly increased.
- Strip Ratio A large percentage of the overall high grade Indicated and Inferred material occurs near surface and will be available for early mining at low strip ratios. The Scoping Study prepared by the Company and released to the market in June 2008 contemplated a waste:ore strip ratio in the early years of mining of 0.5:1.

 Tantalum Resource – the Kanyika Niobium Deposit contains a significant tantalum resource of 17Mlb. Metallurgical work currently underway is designed in part to assess the economic and metallurgical viability of separating this metal.

### **About Globe Metals & Mining**

Globe Metals & Mining is an African-focused uranium and specialty metals resource company. Its main focus is the multi-commodity (niobium, uranium, tantalum and zircon) Kanyika Niobium Project in central Malawi, which contains a 55.3Mt Inferred and Indicated JORC resource @ 3,000ppm Nb<sub>2</sub>O<sub>5</sub>, including a higher grade 24.0Mt component @ 3,800ppm Nb<sub>2</sub>O<sub>5</sub>. The Indicated JORC resource component is 13.2Mt @ 3,600ppm Nb<sub>2</sub>O<sub>5</sub>, including a higher grade 8.5Mt component @ 4,200ppm Nb<sub>2</sub>O<sub>5</sub>. A Pre-Feasibility Study was commissioned in September 2008 and production is planned to commence in 2012.

Globe has a number of uranium and other projects in Malawi, which it manages from its regional exploration office in Lilongwe, the capital of Malawi. The Company has been listed on the ASX since December 2005 (Code: GBE), and has its corporate head office in Perth, Australia.

#### For further information please contact:

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#### **Competent Persons:**

The contents of this report relating to geology and exploration results are based on information compiled by Dr. Julian Stephens, Member of the Australian Institute of Geoscientists and Executive Director - Exploration for Globe Metals & Mining. Dr Stephens has sufficient experience related to the activity being undertaken to qualify as a "Competent Person", as defined in the 2004 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves and consents to the inclusion in this report of the matters compiled by him in the form and context in which they appear.

The contents of this report relating to mineral resources are based on information compiled by consulting geologist Mr Ian Cowden of Iana Pty Ltd, a Chartered Professional Geologist, Fellow of the Australasian Institute of Mining & Metallurgy and Member of the Australian Institute of Geoscientists.. Mr Cowden has sufficient experience related to the activity being undertaken to qualify as a "Competent Person", as defined in the 2004 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, and consents to the inclusion in this report of the matters compiled by him in the form and context in which they appear.

## Summary Kanyika Niobium Project Resource Estimate – April 2009

A Mineral Resource Estimate for the Kanyika Nb-Ta-U-Zr deposit was completed in April 2009 by Globe Metals & Mining's internal geological team of Dr Julian Stephens and David Tullberg and consultant lan Cowden of lana Pty Ltd.

The Kanyika Deposit is located in Malawi approximately 150km north-northeast of the capital city, Lilongwe. The deposit lies within the Malaŵi Province of the Mozambique Orogenic Belt. It is almost entirely underlain by Precambrian and Lower Palaeozoic Basement Complex, mostly gneissic metamorphic rocks. Several granitoid bodies of variable size have intruded the gneissic basement, as well as a few small concordant bodies of alkaline syenitic rocks such as the body hosting the Kanyika Deposit.

The alkalic granitoid body hosting the mineralisation at Kanyika contains various amounts of the Nb-Ta-U mineral, uranpyrochlore, in disseminated form. Higher grade mineralisation is generally associated with nepheline, zircon and uranpyrochlore-rich pegmatite segregations and veins.

Drilling extends to a maximum depth of approximately 280m below surface. The resource estimate is based on good quality, surface RC and diamond drilling data. All drilling was completed by Globe and its contractors over 2007 and 2008.

The resource is comprised of mineralisation in five major zones: the Pangano, Uzambazi, Entandweni and Chikoka Zones in the Central Area and the Milenje Zone in the Northern Area. The resource covers approximately 2.3km strike length and remains open to the north, south and at depth.

A lower cut-off grade of 1,500 ppm Nb<sub>2</sub>O<sub>5</sub> was used to define the global Indicated and Inferred resource at Kanyika (Table A). A lower cut-off grade of 3,000 ppm was used to define the high-grade component of the resource (Table B). No cut-off grade was applied to  $U_3O_8$ ,  $Ta_2O_5$  or  $ZrSiO_4$ . This is justified because Nb<sub>2</sub>O<sub>5</sub> is the primary commodity at Kanyika. No upper cuts were applied to the resource.

The Mineral Resource estimate complies with recommendations in the Australasian Code for Reporting of Mineral Resources and Ore Reserves (2004) by the Joint Ore Reserves Committee (JORC) and is therefore suitable for public reporting. The Mineral Resource estimate is summarised in Tables A and B:

Table A: Kanyika Deposit Total Indicated and Inferred Resource (1,500ppm Nb <sub>2</sub> O <sub>5</sub> Cut-Off Grade)													
7000	Tonnes	$Nb_2O_5$	Ta <sub>2</sub> O <sub>5</sub>	$U_3O_8$	ZrSi0 <sub>4</sub>	$Nb_2O_5$	$Nb_2O_5$	Ta <sub>2</sub> O <sub>5</sub>	Ta <sub>2</sub> O <sub>5</sub>	$U_3O_8$	$U_3O_8$	ZiSO <sub>4</sub>	ZiSO4
Zone	Mt	ppm	ppm	ppm	ppm	Mlbs	t	Mlbs	t	Mlbs	t	Mlbs	t
Milenje Indicated	8.0	3,800	170	110	4,900	67	30,480	3.0	1,360	1.9	880	87	39,300
Milenje Inferred	13.6	3,000	140	90	4,300	90	40,910	4.2	1,910	2.7	1,230	129	58,640
Chikoka Indicated	1.3	3,300	160	80	4,400	9	4,220	0.4	200	0.2	100	12	5,620
Chikoka Inferred	4.5	2,600	130	80	5,700	26	11,740	1.3	590	0.8	360	57	25,750
Entandweni Indicated	0.6	2,600	130	80	4,900	3	1,550	0.2	80	0.1	50	6	2,910
Entandweni Inferred	5.2	3,000	140	70	5,200	34	15,480	1.6	720	0.8	360	59	26,830
Uzambazi Indicated	3.3	3,300	160	70	5,500	24	10,980	1.2	530	0.5	230	40	18,300
Uzambazi Inferred	12.5	2,900	140	70	5,800	80	36,260	3.9	1,750	1.9	880	160	72,510
Pangano Indicated	-	-	-	-	-	-	-	-	-	-	-	-	-
Pangano Inferred	6.3	2,400	110	80	4,500	33	15,110	1.5	690	1.1	500	62	28,320
Total Indicated	13.2	3,600	160	100	5,000	105	47,590	4.7	2,120	2.9	1,320	146	66,090
Total Inferred	42.1	2,800	130	80	5,000	260	117,900	12.1	5,470	7.4	3,370	464	210,540
Grand Total	55.3	3,000	140	80	5,000	366	165,980	17.1	7,750	9.8	4,430	610	276,640

Table B: Kanyika Deposit Total Indicated and Inferred Resource (3,000ppm Nb <sub>2</sub> O <sub>5</sub> Cut-Off Grade)													
Zopo	Tonnes	$Nb_2O_5$	Ta <sub>2</sub> O <sub>5</sub>	$U_3O_8$	ZrSi0 <sub>4</sub>	$Nb_2O_5$	$Nb_2O_5$	Ta <sub>2</sub> O <sub>5</sub>	Ta <sub>2</sub> O <sub>5</sub>	$U_3O_8$	$U_3O_8$	ZiSO <sub>4</sub>	ZiSO <sub>4</sub>
20116	Mt	ppm	ppm	ppm	ppm	Mlbs	t	Mlbs	t	Mlbs	t	Mlbs	t
Milenje Indicated	5.6	4,400	190	130	5,400	54	24,650	2.3	1,060	1.6	730	67	30,260
Milenje Inferred	5.5	3,900	180	100	4,900	47	21,360	2.2	990	1.2	550	59	26,830
Chikoka Indicated	0.8	3,800	190	90	5,100	6	2,900	0.3	140	0.2	70	9	3,890
Chikoka Inferred	0.8	3,400	180	90	6,100	6	2,560	0.3	140	0.2	70	10	4,590
Entandweni Indicated	0.1	3,600	210	110	8,000	1	480	0.1	30	0.0	10	2	1,060
Entandweni Inferred	2.6	3,400	170	80	6,000	19	8,840	1.0	440	0.5	210	34	15,600
Uzambazi Indicated	2.0	3,800	180	70	6,300	17	7,640	0.8	360	0.3	140	28	12,660
Uzambazi Inferred	5.3	3,400	160	80	6,300	40	18,020	1.9	850	0.9	420	74	33,390
Pangano Indicated	-	-	-	-	-	-	-	-	-	-	-	-	-
Pangano Inferred	1.4	3,400	130	100	4,400	10	4,600	0.4	180	0.3	140	13	5,960
Total Indicated	8.5	4,200	190	110	5,600	79	35,730	3.6	1,620	2.1	940	105	47,650
Total Inferred	15.5	3,600	170	90	5,600	123	55,740	5.8	2,630	3.1	1,390	191	86,710
Grand Total	24.0	3,800	170	100	5,600	201	91,170	9.0	4,080	5.3	2,400	296	134,350

\*all columns may not sum exactly due to rounding

The resource was estimated by the Company's geological team using Ordinary Kriging (OK) interpolation constrained by resource outlines based on mineralisation envelopes prepared using geological interpretation and a strict 1,500ppm Nb<sub>2</sub>O<sub>5</sub> cut-off grade. The resource grades were checked by running parallel Inverse Distance Squared (ID2) models, which produced near-identical grades and tonnages of mineralisation.

The block dimensions used in the model were 25m NS x 10m EW x 10m vertical with smallest subcells of 2.5m x 1m x 2.5m. No high grade cuts were applied to the 1m composites and the resource is reported using a lower cut-off of 1,500ppm Nb<sub>2</sub>O<sub>5</sub>.

The resource is classified as an Indicated and Inferred Mineral Resource based on adequate drilling density to support the proposed geological model and define the grade and volume of mineralisation with sufficient confidence. Preliminary economic analysis, metallurgical test work and marketing studies have been carried out by the Company. This, and comparison with existing niobium mining operations elsewhere suggest that the project has reasonable prospects for eventual economic extraction.

Ian Cowden Consulting Geologist Iana Pty Ltd

# **Resource Statement and Parameters**

The resource estimate was completed using the following parameters:

- The Kanyika resource model area extends over a strike length of 2,250m (from 8,595,150mN 8,597,400mN) and includes the 400m vertical interval from 1,100mRL to 700mRL.
- Drill holes used in the resource estimate included 155 surface RC and 21 diamond holes for a total of 15,899m of drilling, all drilled by contractors under Globe supervision in 2007 and 2008. All were inclined at a nominal 55 degrees, 21 holes to the west with the rest to the east.
- RC drilling used 5<sup>1/4</sup> drill bits with samples collected through a cyclone. The vast majority of samples were dry. Drilling was discontinued when samples became wet, which happened only in the first programme when a smaller compressor was used. Only 44 wet samples in five holes were above the 1,500ppm Nb2O5 cut-off, and are considered to have negligible effect on the resource dataset.
- Samples were manually split through a three-tier riffle splitter at 87.5/12.5 ratio. All large sample bags were weighed before splitting whilst sub-samples were weighed after splitting. RC recoveries were considered to be satisfactory.
- Diamond drilling was conducted at mostly HQ size, with NQ used in only one deep hole. Nominal 1m samples were taken by halving the core with a diamond saw. Half of the core was bagged and sent for laboratory analysis, whilst the other half is retained on site for the Company's records.
- In 2007, sub-samples from each metre, each weighing approximately 2-3kg were submitted for analysis to Acme Analytical Laboratories Ltd. in Vancouver, Canada, via their preparation laboratory in Harare, Zimbabwe. Samples were split to 1kg and crushed to 70% passing 10 mesh. This was then further split to 250g and pulverized to 95% passing 150 mesh. Samples were determined by ICP mass spectrometry following a lithium metaborate/tetraborate fusion and nitric acid digestion of a 0.1 g sample.
- In 2008, sub-samples from each metre were submitted for analysis to Genalysis Laboratory Services Pty. Ltd. in Perth, via their preparation laboratory in Johannesburg, South Africa. Samples were split to 1kg and crushed and pulverised to 85% passing -75µm. Samples were determined by ICP mass spectrometry following a sodium peroxide fusion.
- Quality control standards, blanks and field duplicates were submitted on a 1 standard, 1 blank and 1 duplicate for every 17 drill samples. The Company used two customised standards manufactured from Kanyika mineralised material and certified by Ore Research & Exploration Pty Ltd.
- Umpire analysis of samples from different zones of mineralisation was undertaken on 2007 and 2008 drill samples. Umpire and standards analyses of 2008 samples analysed at Genalysis showed good correlation of umpire samples and all standards fell within acceptable ranges. Minor inconsistency and bias was recognised in 2007 results from ACME Analytical Laboratories. This bias was rectified by re-analyses and umpire check analyses at Genalysis Perth, ALS Vancouver and Ultra-Trace Perth.
- Database verification of assays was carried out internally by the company. Approximately 10% of the drill holes were randomly selected and were compared to the original assay reports from the laboratory. No errors were identified.
- All drill-hole collars have been accurately surveyed using Differential GPS units. Down-hole dip and azimuths were determined at regular 20m intervals using a Reflex single-shot tool.
- Mineralisation wireframes were constructed using cross sectional interpretations based on a strict 1,500ppm Nb<sub>2</sub>O<sub>5</sub> lower cut-off grade and geological interpretation.

- Samples within the wireframes were composited to even 1.0m intervals based on analysis of the sample lengths in the database. No high grade cuts were applied to individual samples or 1m composites.
- A Datamine block model was used for the estimate with a block size of 25m NS x 10m EW x 10m vertical with sub-cells of 2.5m x 1m x 2.5m. The block size was selected to reflect the size and dimensions of the mineralised granitoid unit, as well as the drillhole spacing.
- Ordinary Kriging (OK) interpolation with an oriented 'ellipsoid' search was used to estimate Nb<sub>2</sub>O<sub>5</sub>, Ta<sub>2</sub>O<sub>5</sub>, U<sub>3</sub>O<sub>8</sub>, ZrSiO<sub>4</sub>. A long axis radius of 125m, approximately equal to the variogram range in the major direction of continuity was used for all zones for grade allocation of indicated category blocks. It was increased to 250m for the inferred category blocks. Greater than 99% of the blocks were filled in the first pass.
- Bulk density values were measured at the base camp on whole diamond core using the Water Immersion method. The bulk densities are consistent throughout the deposit, averaging 2.65t/m<sup>3</sup> from 213 measurements within the mineralised envelope. This figure has been applied to all material in the resource block model. A total of 195 bulk density samples (91.5%) were of fresh rock which compares to 97% fresh rock in the block model
- The resource is classified as an Indicated and Inferred Mineral Resource based on adequate drilling density to support the proposed geological model and define the grade and volume of mineralisation with sufficient confidence. Preliminary economic analysis, metallurgical testwork and market assessment has been carried out by Globe and its consultants. This, and comparison with existing niobium mining operations elsewhere suggest that the deposit has reasonable prospects for eventual economic extraction.